

CLAIMS

1. A product which has electrically conducting portions, characterized in that said electrically conducting portions are made of a highly conductive resin.

2. A product as set forth in Claim 1, characterized in that said electrically conducting portions are coils having an electric path formed helically on an axis for passing an electric current.

3. A product as set forth in Claim 1, characterized: by comprising a plurality of parts having a multiplicity of linear electrically conducting portions made of a highly conductive resin and exposed at their two end portions to joint faces; and in that said parts are so jointed that the end portions of the electrically conducting portions, as exposed to the joint faces, are made electrically conductive with the end portions of the electrically conducting portions of mating parts thereby to form continuous coils.

4. A product as set forth in Claim 2, characterized in that said coils construct a stator or rotor of a motor.

5. A product as set forth in Claim 1, characterized: in that said electrically conducting portions are coils wound in multiple turns around a core arranged in the axial direction for forming an electric path; in that said coils are equidistantly arranged in the circumferential direction on said axis; and in that each of said coils includes: a body portion extending in parallel

with said core and having a multiplicity of first electrically conducting portions insulated from each other and exposed at its two end portions to the two axial end joint faces; and end plate portions jointed to the two axial end portions of said body portion and having second electrically conducting portions insulated from each other and made electrically conductive to the exposed end portions of the first electrically conducting portions for connecting said first electrically conducting portions with one continuous circuit.

6. A product as set forth in Claim 1, characterized: in that said product is a separator made electrically conductive with one of two electrodes across an electrolyte; and in that the portion, as made conductive with said electrode, of said separator is said electrically conducting portions made of the highly conductive resin.

7. A product as set forth in Claim 1, characterized: in that said electrically conducting portions are a separator for a fuel cell having electrodes arranged on its surface and arranged across an electrolyte; in that said separator is formed into a flat plate shape having a plurality of vent grooves formed in its two front and back faces and in the facial direction; in that said one face has an intake portion formed therein communicating with one end portion of each of said vent grooves formed in said one face, and an exhaust portion formed therein and communicating with the other end portion, whereas said other face has an intake portion formed therein and communicating with one end portion of each of said vent grooves formed in said other face and an exhaust portion formed therein and communicating

with the other end portion.

8. A method for manufacturing a product having electrically conducting portions, characterized in that said electrically conducting portions are formed
5 by making a highly conductive resin fluid into a shape corresponding to said electrically conducting portions and then by causing the highly conductive resin to solidify.

9. A product manufacturing method as set forth in Claim 8,
10 characterized: in that said electrically conducting portions are formed in a plurality of parts to be jointed to each other and in a state in which the end portions are exposed to the joint faces of said parts; by pouring the highly conductive resin into a linear shape and solidifying it and in that said parts are so jointed that the end portions of the electrically conducting portions, as
15 exposed to the joint faces, are made electrically conductive with the end portions of the electrically conducting portions of mating parts thereby to form continuous coils.

10. A product manufacturing method as set forth in Claim 8,
20 characterized by comprising: a step of inserting a multiplicity of linear members separately of each other into a molding cavity and closing a molding die; a step of forming an insulating portion by injecting an electrically insulating resin into the cavity; and a step of forming said electrically conducting portions insulated from each other, by removing said linear
25 members and closing the die again and then by injecting said highly conductive resin into a hollow portion formed by said linear members.

11. A product as set forth in Claim 1, characterized in that the electrically conducting portions of said highly conductive resin are formed while being buried in the surface layer of a body portion of a hollow or solid shaft shape.

5

12. A product as set forth in Claim 11, characterized: in that said body portion formed into a pipe shape and is provided at its predetermined portion with a connector portion having metal terminals; and in that said electrically conducting portions are made conductive with the metal terminals.

10

13. A product as set forth in Claim 12, characterized: in that said body portion is provided at its predetermined portion with a port portion for communicating with the inside of said body portion; and in that said connector portion is disposed in the vicinity of said port portion.